



Trans-Lake Washington Project

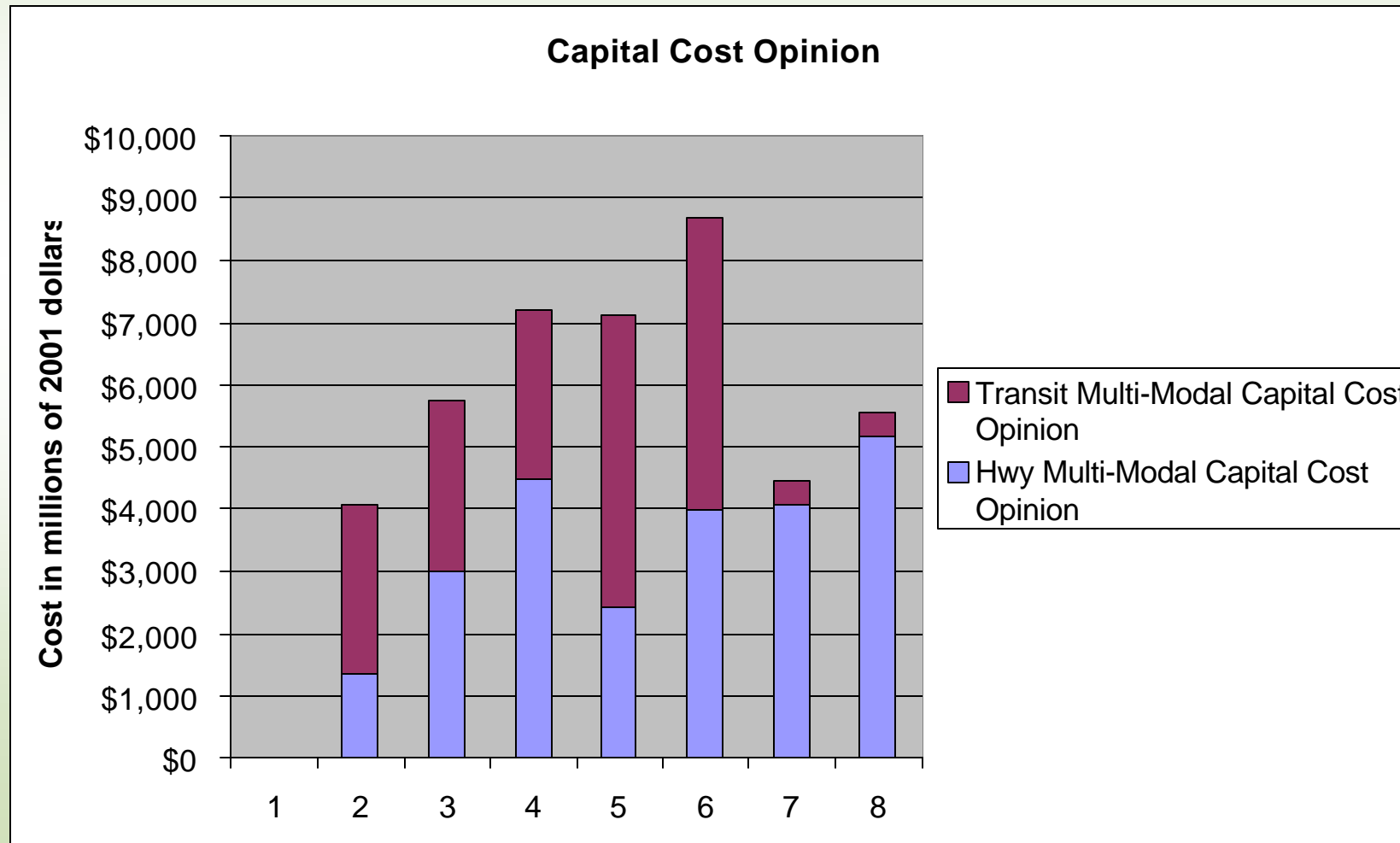
# Cost Summary



Trans-Lake Washington Project

# Multi-Modal Alternative Capital Cost Opinion Summary

(Does not include Mitigation Enhancement Costs)





Trans-Lake Washington Project

# Multi-Modal Alternative Capital Cost Opinion Summary

(In millions of 2001 dollars)

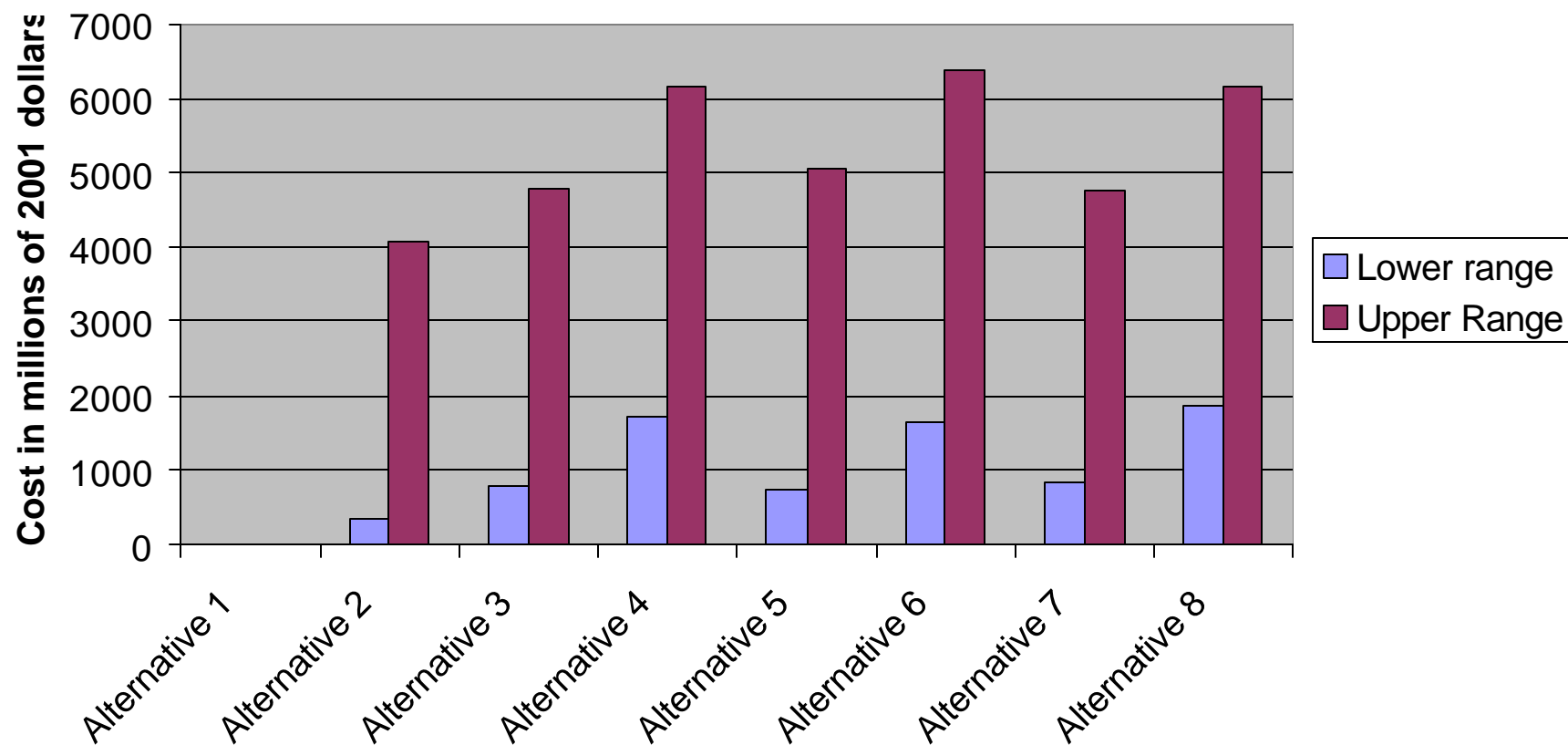
	Alternative 1 No Action	Alternative 2 Safety and Preservation, I- 90 HCT	Alternative 3 HOV and I-90 HCT	Alternative 4 HOV&GP and I-90 HCT	Alternative 5 HOV and SR 520 HCT	Alternative 6 HOV&GP and SR 520 HCT	Alternative 7 HOV/BRT	Alternative 8 HOV/BRT&GP
Hwy Multi-Modal Capital Cost Opinion	\$0	\$1,360	\$3,020	\$4,480	\$2,420	\$3,980	\$3,830	\$4,930
Transit Multi-Modal Capital Cost Opinion	\$0	\$2,720	\$2,720	\$2,720	\$4,710	\$4,710	\$270	\$270
Total Alternative Capital Cost Opinion	<b>\$0</b>	<b>\$4,080</b>	<b>\$5,740</b>	<b>\$7,200</b>	<b>\$7,130</b>	<b>\$8,690</b>	<b>\$4,100</b>	<b>\$5,200</b>
Index, Low Cost = 100		100	141	176	175	213	100	127

**Note 1:** Transit capital cost include HCT fixed guideway, cost for all BRT only structures, roadway and stations plus Park and Ride upgrade costs. Does not include Mitigation Enhancement Costs.



# Mitigation/Enhancement Costs

Noise Walls, Stormwater, Local Streets, Environmental, Lids





# Mitigation/Enhancement Costs

(In millions of 2001 dollars)

	Alternative 1 No Action	Alternative 2 Safety and Preservation, I- 90 HCT	Alternative 3 HOV and I-90 HCT	Alternative 4 HOV+GP and I- 90 HCT	Alternative 5 HOV and SR 520 HCT	Alternative 6 HOV+GP and SR 520 HCT	Alternative 7 HOV/BRT	Alternative 8 HOV/BRT+GP
Noise Walls <sup>1</sup>	\$0	\$30	\$60	\$60	\$60	\$60	\$60	\$60
Storm Water Mitigation <sup>2</sup>	\$0	\$90	\$330	\$570	\$320	\$560	\$340	\$570
Local Street Improvements <sup>3</sup>	\$0	\$40	\$180	\$900	\$150	\$800	\$240	\$1,030
Environmental Mitigation <sup>4</sup>	\$0	\$50 to \$410	\$60 to \$580	\$80 to \$720	\$80 to \$720	\$90 to \$870	\$50 to \$410	\$60 to \$520
Lids <sup>5</sup>	\$0	\$130 to \$3480	\$130 to \$3570	\$130 to \$3740	\$130 to \$3780	\$130 to \$3950	\$130 to \$3620	\$130 to \$3790

**Note 1:** Noise walls for Alt. 2-8 are assumed along 90% of the westside mainline, 90% of the corridor from Lake Washington to I-405, and for Alt. 3-8 along 60% of the corridor from I-405 to SR 202. These cost are included in the life cycle analysis.

**Note 2:** Storm water cost were modeled off the Sea-Tac Third runway storm water requirements. Any changes in storm water regulation can cause these costs to vary. These cost are included in the life cycle analysis.

**Note 3:** Local street improvements are taken as a percentage of the highway construction costs. This percentage ranges from 3% for alternative 2, to 6% for the six-lane alternative and 20% for the eight-lane alternatives. These costs are included in the life cycle analysis.

**Note 4:** Environmental Mitigation includes wetland mitigation, habitat restoration, park mitigation, etc. It may range from 1-10% of the capital cost for each alternative. For purposes of the Life Cycle analysis the environmental mitigation cost was taken at 5%.

**Note 5:** Lid cost are not included in the life cycle analysis.



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# TDM Annual Cost Opinion

(In millions of 2001 dollars)

	Alternative 1 No Action	Alternative 2 Safety and Preservation, I-90 HCT	Alternative 3 HOV and I-90 HCT	Alternative 4 HOV+GP and I-90 HCT	Alternative 5 HOV and SR 520 HCT	Alternative 6 HOV&GP and SR 520 HCT	Alternative 7 HOV/BRT	Alternative 8 HOV/BRT&GP
Annual TDM Cost	<b>\$0.00</b>	<b>\$6.75</b>	<b>\$7.70</b>	<b>\$8.34</b>	<b>\$7.54</b>	<b>\$8.42</b>	<b>\$7.79</b>	<b>\$8.66</b>

- Estimated investment needed to assure or exceed the HOV/Transit forecasts for each alternative (except No Action)
- Alternative investment proportional to the HOV/Transit forecasts
- Assumed similar investment levels to Destination 2030
- Major strategy areas included for all alternatives:
  - Vanpooling
  - Employer-based trip reduction
  - Public Information and Promotion
  - TDM-Supportive Land Use
  - Public/Private Initiatives (Trip Reduction Partnerships)
- Strategy-by-strategy investment levels need further study and discussion



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# Multi-Modal Alternative Annual O&M Costs

(In millions of 2001 dollars)

		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8
		No Action	Safety and Preservation, I-90 HCT	HOV and I-90 HCT	HOV+GP and I-90 HCT	HOV and SR 520 HCT	HOV&GP and SR 520 HCT	HOV/BRT	HOV/BRT&GP
Highway O&M Annual Costs	Tunnel	\$0	\$0	\$0.74	\$1.79	\$0.00	\$1.28	\$1.69	\$3.03
	Other	\$0	\$0.18	\$0.67	\$1.43	\$0.65	\$1.37	\$0.81	\$1.23
Transit O&M Annual Costs	Rail	\$0	\$48.4	\$48.4	\$48.4	\$47.1	\$47.1	\$0	\$0
	Bus	\$0	\$2.0	\$2.5	\$2.4	-\$2.9	-\$3.1	\$15.6	\$15.6
Incremental Annual O&M Cost Opinion vs. Alternative 1		\$0	\$50.58	\$52.31	\$54.02	\$44.85	\$46.65	\$18.10	\$19.86

- All costs are incremental over No Action
- Highway assumptions:
  - Lids annual roadway maintenance costs (including Structures)
- Transit assumptions:
  - Operating/Maintaining Road Vehicles (including Support Facilities)
  - Operating/Maintaining Rail Track (including Structures)



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# Multi-Modal Alternative Annual Private Costs

(In millions of 2001 dollars)

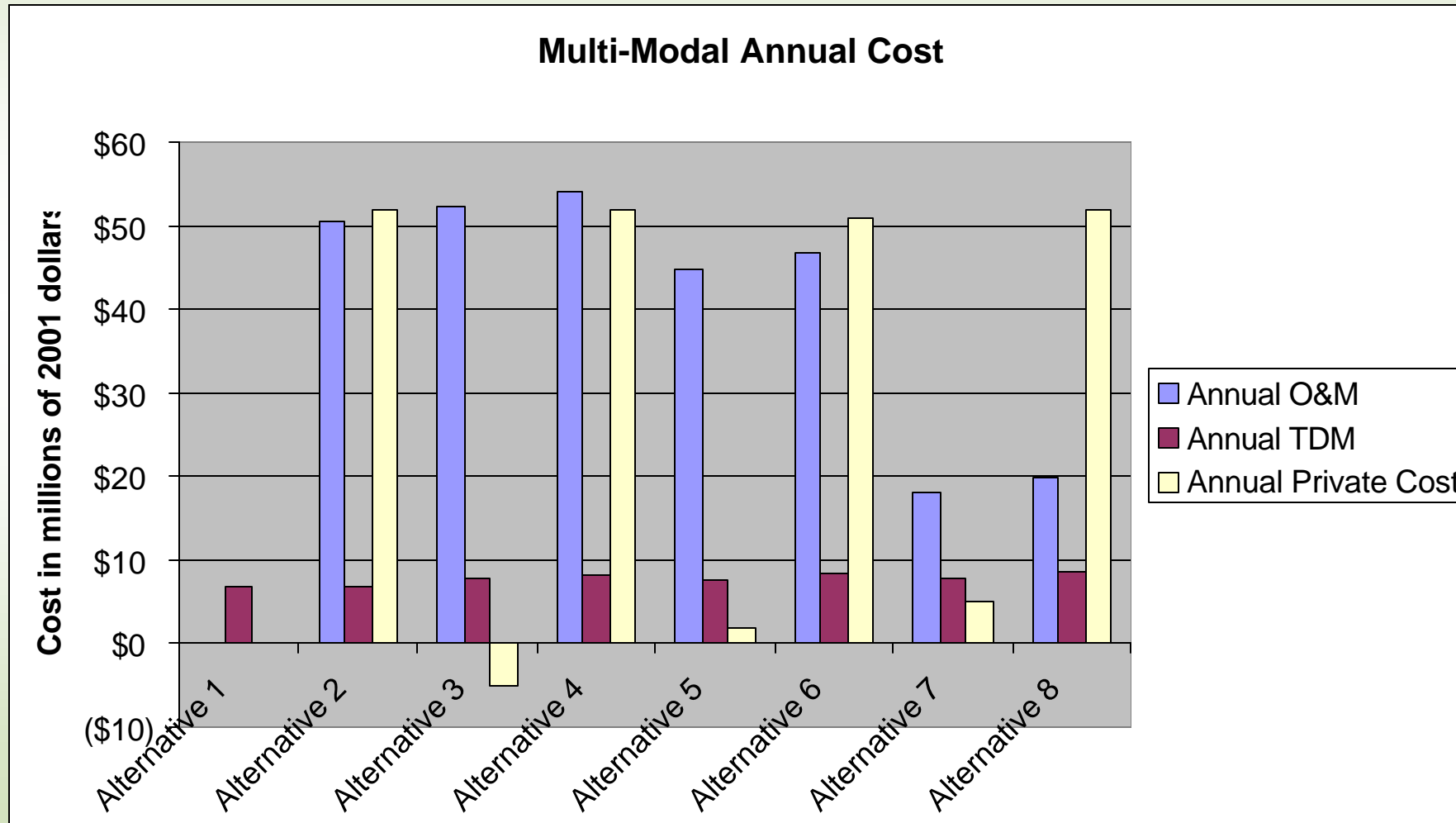
	Alternative 1 No Action	Alternative 2 Safety and Preservation, I- 90 HCT	Alternative 3 HOV and I-90 HCT	Alternative 4 HOV&GP and I- 90 HCT	Alternative 5 HOV and SR 520 HCT	Alternative 6 HOV&GP and SR 520 HCT	Alternative 7 HOV/BRT	Alternative 8 HOV/BRT&GP
Annual Private Costs	\$0	\$52	-\$5	\$52	\$2	\$51	\$5	\$52

- All costs are incremental over No Action
- Include costs of owning/operating a vehicle (\$.39/mi./cars & \$1.29/trucks:
  - Fuel/Oil
  - Maintenance
  - Tires
  - Depreciation
  - Finance Charges
  - Tax/License
  - Insurance
- Annual cost Derived from Modeled Vehicle Miles Traveled (VMT)
- Assumes 95% traffic is autos, remainder is trucks (consistent w/I-405)



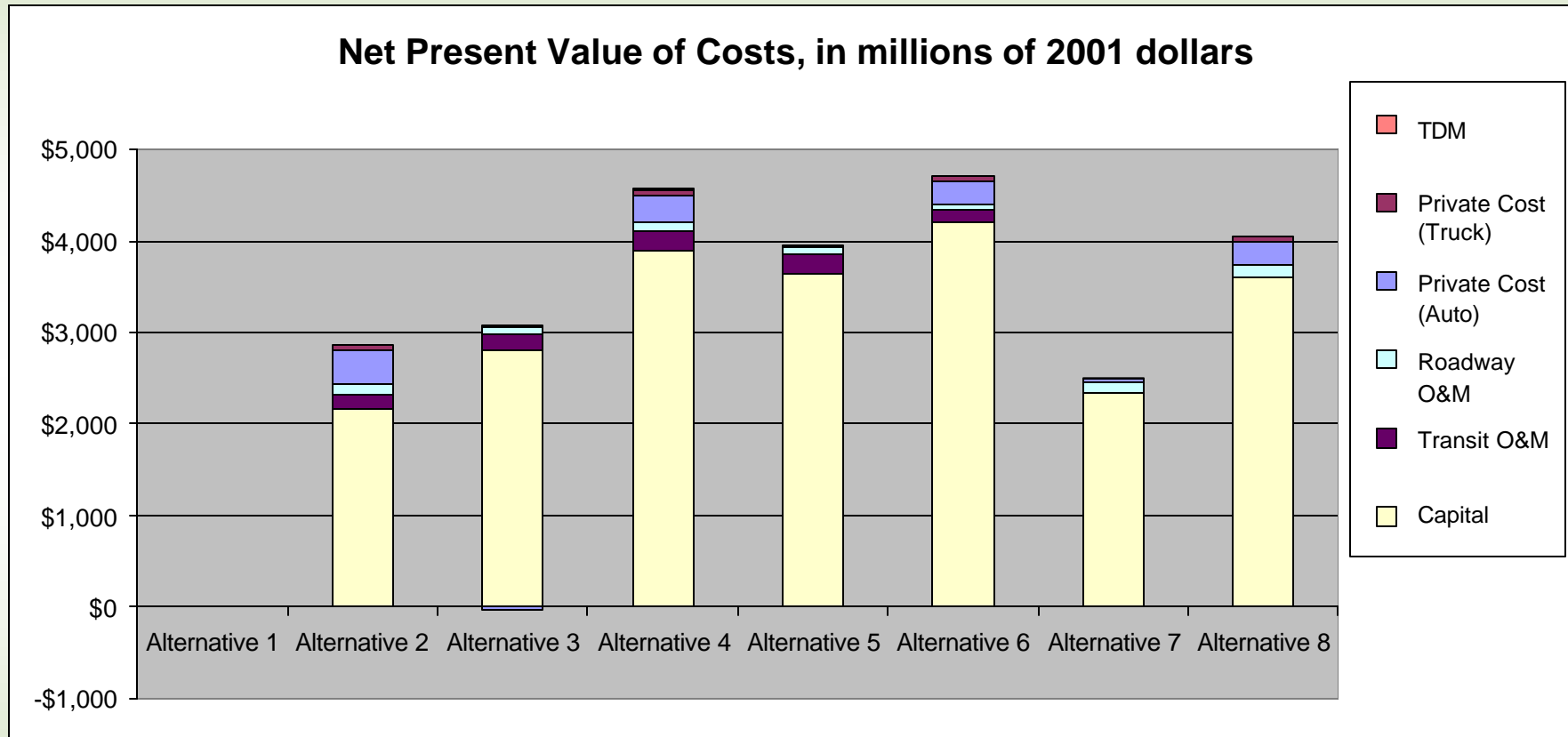


# Multi-Modal Annual Cost





# Life Cycle Costs



- Reflects annual cost of a project over its entire useful life.
- Compares all alternatives based on a “present value” of costs.
- Includes capital, annual and private costs.